

## **REMARKS**

Claims 1 and 3-33 are all the claims pending in the application, claim 2 having been previously cancelled. Claims 1 and 15 are the only independent claims. Applicant has presented a current claim listing for the convenience of the Examiner. No amendments to the claims are currently submitted.

Claims 1-25 and 27-33 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Armstrong (5,565,891) in view of Meriaz (U.S. Pat. Pub. 2002/0113776). Claim 26 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Armstrong and Meriaz, and further in view of Yokoji (6,909,422). Applicant respectfully traverses these rejections, and requests reconsideration and allowance of the pending claims in view of the following arguments.

### **Claim Rejections - 35 U.S.C. §103**

Claims 1-25 and 27-33 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Armstrong in view of Meriaz.

#### **Insufficient rationale under MPEP 2143, Sec. A**

Claim 1 is directed toward a user interface device and recites “a first user interface element . . . generating a first plurality of signals . . .” and “a displacement sensor generating sensor signals independently responsive to each of the two independent directions of displacement of said trackball relative to said hand-held housing.” Claim 1 further requires “signal circuitry producing an outgoing displacement signal responsive to said sensor signals and a second outgoing signal responsive to the first plurality of signals.”

At least in part as an alternative to reliance solely on Armstrong, the Office Action indicates that Armstrong teaches a number of claim limitations, except for the “first user interface element” identified above. The Action attempts to remedy this deficiency of Armstrong by relying upon Meriaz to teach this feature. Although the Action has combined Armstrong and Meriaz, Applicant asserts that the Office Action does not establish the necessary findings to support a conclusion that claim 1 would have been obvious to one of ordinary skill in the art.

Page 3 of the Office Action takes the following position:

“It would have been obvious to one of ordinary skill in the art at the time of the invention to add the mouse functionality as taught by Meriaz to the trackball device of Armstrong in order to provide an additional level of control for the user.” (Office Action, pg. 3).

It appears that the Examiner is rejecting claim 1 based upon the rationale set forth in MPEP 2143, Sec. A, which provides the following:

“To reject a claim based on this rationale, Office personnel must resolve the *Graham* factual inquiries. Then, Office personnel must articulate the following:

(1) a finding that the prior art included each element claimed, although not necessarily in a single prior art reference, with the only difference between the claimed invention and the prior art being the lack of actual combination of the elements in a single prior art reference;

(2) a finding that one of ordinary skill in the art could have combined the elements as claimed by known methods, and that in combination, each element merely performs the same function as it does separately;

(3) a finding that one of ordinary skill in the art would have recognized that the results of the combination were predictable; and

(4) whatever additional findings based on the *Graham* factual inquiries may be necessary, in view of the facts of the case under consideration, to explain a conclusion of obviousness.” (emphasis added).

In the present matter, with regard to the above-identified item (2) of MPEP 2143, the Office Action appears to make the finding that Meriaz discloses “mouse functionality,” and that this feature of Meriaz merely performs the same function when combined with Armstrong. However, Applicant respectfully disagrees for the following reasons.

Applicant’s review of Meriaz reveals a discussion relating to a roller ball or optical mouse that is combined with a trackball. (Meriaz para. 0002). The Meriaz device purportedly permits manipulation of either the trackball or the bottom roller ball in order to effect movement of a cursor on a computer monitor screen. (Meriaz para. 0007). This feature is explained further in that switch 20 is used to select which device (i.e., either the trackball or the bottom roller ball) is active at any given time. (Meriaz para. 0016). In other words, only the trackball or the bottom roller ball, but not both, can be active at any given time. In one embodiment, this functionality is purportedly controlled by switch 20. These aspects of Meriaz are significant for at least two reasons.

Applicant's first point relates to the purported combination of Meriaz and Armstrong as being limited to providing at most one output. This is because the output is based upon manipulation of either the trackball or the bottom roller ball. In the present case, if the bottom roller ball aspect of Meriaz is added to the Armstrong device (as alleged in the Office Action), then such a combined device would only provide one output (from either the roller ball from Meriaz or the trackball of Armstrong). Because of this shortcoming, the alleged combination of Meriaz and Armstrong fails to teach both "an outgoing displacement signal" and a "second outgoing signal," as recited in claim 1.

Applicant's second point addresses squarely the above-identified item (2) of MPEP 2143. It appears to be the position of the Office Action that the Armstrong trackball somehow causes the generation of the "outgoing displacement signal," and that the Meriaz "roller ball" causes the generation of the "second outgoing signal." However, such an arrangement is absolutely inconsistent with the Meriaz publication. Recall, that Meriaz has considered the scenario of a device having a combination of trackball and a roller ball. In such a scenario, Meriaz states that only one of these devices is active at a given time, and thus, only one signal is generated.

The Office Action now attempts to go against the teachings of Meriaz by stating that the Meriaz roller ball could somehow be used in an arrangement in which a roller ball could be used (thus generating a "second outgoing signal") while also permitting the trackball of Armstrong to purportedly generate the "outgoing displacement signal." However, such an arrangement would change the function provided by the Meriaz device. In particular, the Meriaz bottom roller ball aspect would have to be modified from one which operates in a mutually exclusive manner with a trackball, such that it generates a single signal, to one in which the roller ball operates independently of a trackball, such that two signals are generated (i.e., the claimed "outgoing displacement signal" and "second outgoing signal").

The above-identified item (2) of MPEP 2143 explicitly requires that "each element merely performs the same function as it does separately." (Emphasis added). In order for the purported combination of Armstrong and Meriaz to teach the identified claim elements, the Meriaz device would therefore have to perform a function (two signal operation) that is different from the function that it provides on its own (one signal operation). Since Meriaz would not be performing the same function, as required by MPEP 2143, the finding set out in item (2) has not been met. The law is clear that "If any of these findings cannot be made, then this rationale cannot be used to support a

conclusion that the claim would have been obvious to one of ordinary skill in the art.” (MPEP 2143, Sec. A). In the present matter, Applicant has demonstrated that finding (2) is missing from the Office Action. Consequently, claim 1 is not obvious over Armstrong and Wilson.

### **Applicant proceeds contrary to the cited art**

Applicant further submits that “[t]he totality of the prior art must be considered, and proceeding contrary to accepted wisdom in the art is evidence of nonobviousness.” (MPEP 2145, citing *In re Hedges*, 783 F.2d 1038, 228 USPQ 685 (Fed. Cir. 1986)).

In the present matter, recall that claim 1 relates to a user interface device that requires both “an outgoing displacement signal” and a “second outgoing signal.” Applicant has demonstrated above the Meriaz device generates a single signal (resulting from either the trackball or the bottom roller ball). In other words, even if Meriaz discloses two devices (a trackball and a bottom roller ball), that device is limited to only providing a single signal output. Armstrong is similarly deficient in that it discloses a single device (trackball) and a corresponding single signal output. Applicant’s point is that the accepted wisdom of the cited references is that regardless of whether a device has a single signal generating element (the trackball of Armstrong) or two signal generating elements (the trackball and roller ball of Meriaz), the fact remains that the cited art discloses the generating of a single signal.

The Office Action relies upon various portions of Armstrong and Meriaz for support for the rejection. Application submits that current law requires the PTO to consider these references for all that they disclose, including the portions which support Applicant’s position. “A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. MPEP § 2141.02 (citing *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984) (emphasis in original)). In view of the foregoing, Applicant has proceeded contrary to that which is disclosed in Armstrong and Meriaz, to the extent that claim 1 requires both “an outgoing displacement signal” and a “second outgoing signal.” MPEP therefore compels a finding of nonobviousness of this claim in view of Armstrong and Meriaz.

### **Armstrong teaches away from the mouse device of Meriaz**

It is a well-established principle that “[i]t is improper to combine references where the references teach away from their combination.” MPEP § 2145 (citing *In re Grasselli*, 713 F.2d 731, 743, 218 USPQ 769, 779 (Fed. Cir. 1983)). A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be led in a direction divergent from the path that was taken by the Applicant. See *In re Haruna*, 249 F.3d 1327, 1335, 58 USPQ2d 1517, 1522 (Fed. Cir. 2001).

In the current application, the Office Action contends that it would have been obvious to modify the Armstrong device to include “mouse functionality” disclosed by Meriaz. (Office Action, pg. 3). Applicant respectfully disagrees since Armstrong teaches away from such a combination.

For example, the Examiner’s attention is invited to col. 12, line 13 of Armstrong which states that the housing (of Armstrong) replaces a “typical mouse.” Armstrong clearly recognizes that its device is not be used in association with a mouse. Further support in Armstrong for Applicant’s position is as follows”

“Disadvantages which I believe exist in the Chang device, which I believe I have inventively overcome with the present invention, include the requirement that the trackball housing be moved along a surface in order to input linear moment information. This requirement of surface contacting travel prohibits the use of the Chang device as a completely hand held controller, and prohibits the Chang controller from being incorporated into a multi-purpose controller such as a hand held television remote controller or a conventional computer keyboard. Additionally, substantial physical space is required on a desk or table on which to propel a mouse type controller.

Another disadvantage of the Chang controller is that it is not believed to be intuitive, or in other words, the mouse roller ball on the underside of the housing which inputs linear moment information in some directions, is not capable of inputs in all linear directions, and thus the Chang device includes the thumb wheel on the side which is utilized to emulate, approximate or represent linear movement along the third axis. The manipulative hand movements required to move linearly utilizing pushing of the mouse for some directions, and the actuation of the thumb wheel for other directions is not intuitive and thus sometimes confusing and difficult for the user.” (Armstrong col. 1, lines 41-65) (emphasis added).

Armstrong clearly discredits the Chang device (U.S. 5,298,919). Chang discloses a trackball and mouse combination that is striking similar to that of Meriaz. Accordingly,

Armstrong's comments with regard to Chang apply equally to Meriaz. Since Armstrong has clearly discounted the teachings Chang, it likewise discounts the teachings of Meriaz. By denouncing any association with a conventional mouse (Meriaz), such comments represent a teaching away from the combination of Armstrong and Meriaz.

In view of the foregoing, Applicant has submitted various reasons as to why it would not have been obvious to combine the teachings of Armstrong and Meriaz in the manner alleged to arrive at the invention recited in claim 1. Claim 1 is therefore believed to be patentable. Independent claim 15 includes language similar to that of claim 1, and thus, is believed to be patentable for reasons similar to those discussed with regard to claim 1. The rejected dependent claims are also believed to be patentable at least by virtue of their respective dependence on the patentable independent claims.

### **Improper official notice for dependent claims**

Notwithstanding the above, Applicant provides the following comments with regard to various dependent claims. In particular, the Office Action recognizes that Armstrong lacks explicit teachings relating to a number of claim elements. In addition, the Office Action fails to identify any reference which provides the requisite teaching.

Applicant acknowledges that in limited circumstances, it is appropriate for an Examiner to take official notice of facts not in the record or to rely on "common knowledge" in making a rejection. However, MPEP § 2144.03 requires that "such rejections should be judiciously applied." Furthermore, "[o]fficial notice unsupported by documentary evidence should only be taken by the examiner where the facts asserted to be well-known, or to be common knowledge in the art are capable of instant and unquestionable demonstration as being well-known." (MPEP § 2144.3[A]). This section of the MPEP further provides that "the notice of facts beyond the record which may be taken by the examiner must be capable of such instant and unquestionable demonstration as to defy dispute" (internal citations omitted).

A number of dependent claims include limitations which, contrary to the assertions presented in the Office Action, are not "common knowledge" or "well-known" in the art. Examples of such claims are:

- "capacitive element" (claims 8 and 19);
- "electro-magnetic element" (claims 9 and 22);

- “magnetic sensor” (claim 21);
- “resonance” (claim 24);
- “polarization” (claim 25);

Applicant submits that the above-identified features are not common knowledge or well-known. Applicant has reviewed a number of prior art references, including those cited in the IDS and the various patents referred in the present Office Action. None of these references teach, suggest, or even mention any of the claimed features.

In view of the foregoing, Applicant respectfully requests that the Examiner provide documentary evidence in the next office action if the rejection to the identified claims is to be maintained. (MPEP § 2144.3[C]; see also 37 CFR § 1.104(c)(2)). In addition, if the Examiner is relying on personal knowledge to support the finding of what is known in the art, the Examiner is further requested to provide an affidavit or declaration setting forth specific factual statements and explanation to support the findings recited in the Office Action. See 37 CFR § 1.104(d)(2).

### **Dependent claim 29**

Claim 29 recites “wherein said displacement sensor comprises a pressure sensor.” Page 6 of the Office Action indicated that elements 108 and 110 of the Armstrong patent teach this feature.

Applicant’s review of the cited portion of Armstrong finds a discussion relating to actuator 108 and sensor 110. However, missing from Armstrong is any teaching relating to sensor 110 being a pressure sensor. To the contrary, Applicant’s reading of Armstrong finds that sensor 110 is a simple switch. A switch is quite different from a pressure sensor, and thus, Armstrong does not teach this element as well. Accordingly, dependent claim 29 is believed patentable for this additional reason.

Claim 26 is believed patentable at least by virtue of its dependency on patentable claim 15.

## **CONCLUSION**

In view of the above, Applicant submits that the currently pending claims are in condition for allowance. However, should there remain any outstanding issues, it is respectfully requested that the Examiner telephone the undersigned so that such issues may be resolved as expeditiously as possible.

The Commissioner is hereby authorized to charge any additional fees which may be required in this application to deposit account No. 06-1135.

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Respectfully submitted,

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